

WHAT IS CLAIMED IS:

1. A method of securely providing user information to a user machine adapted to operate in conjunction with an optically readable memory containing information which comprises at least the user information and a gatekeeper program, and  
5 having thereon an obscurable section comprising a photoreactive mask layer disposed to alter the detected optical properties of areas of the memory exposed substantially to a wavelength of optical radiation usable to read the memory, the method comprising the steps of:

collecting machine-unique information from the user machine;

10 generating a user machine signature based on the machine-unique information;

causing the user machine to scan the obscurable section of the memory;

determining whether an existing signature is present in the obscurable section; and

if no existing signature is present in the obscurable section, causing the generated user machine signature to be written in the obscurable section

15 by selectively irradiating the obscurable section with light of the same wavelength used to read the memory, thereby selectively altering the detected optical properties of the memory in the obscurable section, and providing the user information to the user machine; and

20 if an existing signature is present in the obscurable section, causing the user machine to compare the existing signature to the generated signature, and providing the user information to the user machine if the existing signature matches the generated signature, and denying the user machine access to the user information if the existing signature does not match the generated signature.

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2. The method according to claim 1, wherein the step of collecting machine-unique information from the user machine is performed by the gatekeeper program.

3. The method according to claim 1, wherein the machine-unique information includes component-identifying information corresponding to at least one hardware component residing in the user machine.

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4. The method according to claim 3, wherein the machine-unique information includes component-identifying information corresponding to a plurality of hardware components residing in the user machine, and wherein the step of comparing the existing signature to the generated signature includes the step of finding a match if a subset of the component-identifying information used to derive the generated signature matches a subset of the component-identifying information used to derive the existing signature.

5. The method according to claim 1, wherein the photoreactive mask layer includes UV chromophores pre-exposed to UV radiation, such that the photoreactive mask layer is sensitized to IR radiation of the wavelength used to read the memory.

6. The method according to claim 5, wherein the UV chromophores are disposed on a surface of the optically readable memory.

7. The method according to claim 5, wherein the UV chromophores are disposed within a layer of the optically readable memory.

8. The method according to claim 1, wherein the photoreactive mask layer includes silver soap.

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9. The method according to claim 8, wherein the silver soap is disposed on the surface of the optically readable memory.

10. The method according to claim 8, wherein the silver soap is disposed within a layer of the optically readable memory.

5 11. The method according to claim 1, wherein the photoreactive mask layer includes amorphous compound semiconductor material.

12. The method according to claim 11, wherein the amorphous compound semiconductor material is disposed on the surface of the optically readable memory.

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13. The method according to claim 11, wherein the amorphous compound semiconductor material is disposed within a layer of the optically readable memory.

14. The method according to claim 1, wherein the photoreactive mask layer includes oxygen bearing material disposed within a reflective layer of the memory, adapted to release oxygen into the material of the reflective layer upon encountering IR radiation.

15 15. The method according to claim 1, wherein the step of causing the generated user machine signature to be written in the obscurable section by selectively irradiating the  
20 obscurable section further comprises the step of irradiating the obscurable section with a resolution of individual lands and pits to encode the user machine signature.

16. The method according to claim 1, wherein the step of causing the generated user machine signature to be written in the obscurable section by selectively irradiating the  
25 obscurable section further comprises the step of irradiating an individual ring of the optical memory to encode the user machine signature.

17. The method according to claim 16, wherein the step of irradiating an individual ring of the optical memory to encode the user machine signature comprises the step of irradiating a subset of a plurality of rings within the obscurable section to encode a binary representation of the signature.

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18. The method according to claim 1, wherein the step of causing the generated user machine signature to be written in the obscurable section by selectively irradiating the obscurable section further comprises the step of irradiating individual sectors of the optical memory to encode the user machine signature.

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19. The method according to claim 1, wherein the obscurable section consists of a ring along an outer circumference of the disc surface, and wherein the photoreactive mask layer is disposed only in the obscurable section.

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20. The method according to claim 1, wherein the altered detected optical properties of the memory in the obscurable section exhibit a change in the reflectivity of the mask layer.

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21. The method according to claim 1, wherein the altered detected optical properties of the memory in the obscurable section exhibit a change in the translucence of the mask layer.

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22. An optically readable memory comprising:  
at least one obscurable section comprising a photoreactive component,  
wherein the photoreactive component is adapted to react to selectively applied optical radiation of the wavelength and power used to read the memory, to digitally encode binary data.

23. The optically readable memory according to claim 22, wherein the photoreactive component includes UV chromophores disposed on a surface of the memory.

5 24. The optically readable memory according to claim 23, wherein the UV chromophores have been incubated by UV radiation rendering them photosensitive to IR radiation.

10 25. The optically readable memory according to claim 22, wherein the photoreactive component includes UV chromophores disposed within a layer of the memory.

15 26. The optically readable memory according to claim 25, wherein the UV chromophores have been incubated by UV radiation rendering them photosensitive to IR radiation.

27. The optically readable memory according to claim 22, wherein the photoreactive component includes silver soap disposed on a surface of the memory.

20 28. The optically readable memory according to claim 22, wherein the photoreactive component includes silver soap disposed within a layer component of the memory.

25 29. The optically readable memory according to claim 22, wherein the photoreactive component includes amorphous compound semiconductor material disposed on a surface of the memory.

30. The optically readable memory according to claim 22, wherein the photoreactive component includes amorphous compound semiconductor material disposed within a layer of the memory.

5 31. The optically readable memory according to claim 22, wherein the photoreactive component includes oxygen bearing material disposed within a reflective layer of the memory, adapted to release oxygen into the material of the reflective layer upon encountering IR radiation.

10 32. The method according to claim 22, wherein the obscurable section consists of a ring along an outer circumference of the disc surface, and wherein the photoreactive component is disposed only in the obscurable section.

33. The method according to claim 22, wherein the photoreactive component is  
15 adapted to exhibit a change in reflectivity upon irradiation by electromagnetic energy of a wavelength used to read the memory.

34. The method according to claim 22, wherein the photoreactive component is  
20 adapted to exhibit a change in translucence upon irradiation by electromagnetic energy of a wavelength used to read the memory.

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